SCIENCE

NEW SERIES. VOLUME LXXIV

JULY-DECEMBER, 1931

NEW YORK
THE SCIENCE PRESS
1931

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PA.

General
Walw
cop. 1

CONTENTS AND INDEX

NEW SERIES. VOL. LXXIV—JULY TO DECEMBER, 1931

THE NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS

Abbreviations for Scientific Terms, E. H. McClelland, 203
Abdominal Window, W. L. Mendenhall, 245
Absorption Devices and Methods, J. W. Williams, 340
Academy of Science, Texas, H. B. Parks, 97; N. H., G. W. White, 98; N. C., H. R. Totten, 153; Virginia, E. C. L. Miller, 154; of Sciences, National, 571, 604, Award of Gold Medals to Dr. Annie J. Cannon and Professor Henry B. Bigelow, 644, Othniel Charles Marsh, 647
Acid, Arachidic, Do Peanut Fed Hogs Yield Lards Containing?, A. H. Gill and G. T. Vaala, 548
Adams, R., Samuel Wilson Parr, 8
Adenosine, The Ring Structure of, P. A. Levene and R. S. Tipson, 521
Aeronautics, National Advisory Committee for, 451
Agricultural Experiment Stations, 479
Akeley, M. L. J., National Parks in Africa, 584
Albert National Park in the Congo, 63
Alexander, L. J., and H. C. Young, Powdery Mildew, 314
Alfalfa, Inbreeding in, G. Stewart, 341
Allen, E. T., Dr. Hillebrand as I Knew him, 60
Allen, R. F., Heterothallism in Puccinia triticina, 462
Allergy, Psychic Analogues of, H. Sewall, 37
Alvarez, W. C., Copying Kymographic Records, 634
Amblystoma, X-Radiation and Regeneration in, E. G. Butler, 100
Ameel, D. J., The Lung Fluke in North America, 493
American Association for the Advancement of Science, Address of the President, 1; Pasadena Meeting, General Features, 103; Attendance, Sessions and Papers, 104; Local Committee and Representatives of Sections, 104; Officers, 1931, 105; Excursions, 106; Council Meeting, 106; Scientific Exhibition, 107; General Sessions, 108; Press Service, 109; Scientific Sessions, A—110; B—110; C—113; D—113; E—114; F—115; G—117; F and G—117; H—117; I—118; K—119; L—120; M—121; N—121; O—122; Q—122; Summer Meeting in 1933, J. S. Sewall, 201; New Orleans Meeting, C. F. Roos, 415, 516; Section F (Zoology), G. T. Hargitt, 416; Section E (Geology and Geography), K. F. Mather, 417; Preliminary Announcement, 525; Notices for Those Planning to Attend, 527; Press Service, 527; Prize, 528; Scientific Sessions of Sections and Societies, 528; General Officers, 1931, 536; Mayan Symposia and Exhibits, 570; Research Exhibits, 590
Angiosperms, Age of, G. R. Wieland, 219
Anthony, H. E., Control of Predatory Mammals, 288
Antiurease, J. B. Sumner and J. S. Kirk, 102
Apgar, C. S., Box Camera in Photomicrography, 487
Apple Measles, A. Berg, 485
Arboretum, National, 362
Arts and Sciences, Amer. Acad. of, Grants of, 407
Asia, Central, Psychological Expedition to, 383
Atomic Structure and Valence Variation, M. Gomberg, 553

Babcock, Dr. Stephen Moulton, H. L. Russell, 86; G. Frank, 87
Bacteria, Filterable, 127, 196; A. I. Kendall, 129; J. M. Sherman and C. E. Safford, 602
Bailey, Professor Solon I., H. Shapley, 29; History and Work of Harvard Observatory, F. E. Brasch, 598
Baldwin, H. I., and W. E. Percival, Polyembryony in Red Spruce, 203
Basal-Metabolic Rates of Vegetarians, G. Wakeham and L. A. Hansen, 70
Bascom, F., Geomorphic Nomenclature, 172
Baskerville, Dr., The Work of, N. Van Patten, 657
Beams, J. W., and A. J. Weed, An Ultra-Centrifuge, 44
Beaver Dams, Position of Wood in, C. MacNamara, 630
Beebe, W., A Submerged Beach off Bermuda, 629
Beit Memorial Fellowships for Medical Research, 262
Berg, A., Apple Measles, 485
Bermuda, Fresh-water System, 478; A Submerged Beach off, W. Beebe, 629
Berry, E. W., Plant Life, A. C. Seward, 72
Bevan, A., Virginia Geological Survey, 630
Billings, M., Geological Excursion, 658
Bing, F. C., Contribution to Nutrition by Magendie, 456
Bingham, E. C., Edward Hart, 1854–1931, 123
Binkley, A. M., Correction on Psyllid-Yellows, 72
Biochemical Research, T. B. Johnson, 276
Biochemists, Revolt of the, P. A. Levene, 23
Biokinetics, A Study in, C. D. Snyder, 443
Biological, Cycles, Matamek Conference on, 1931, E. Huntington, 229; Abstracts, P. D. Lamson, 486; Photographic Association, 506
Birch, C. L. F., Hemophilia, 16
Bird Sanctuaries, New, 623
Birds, Bilateral Gynandromorphism in, F. R. Lillie, 387
Bischoff, F., L. C. Maxwell and H. J. Ullmann, Hormones in Cancer, 16
Blake, F. G., Clinical Investigation, 27
Blake, S. F., A Flora of Mexico, 458
Boas, F., Race and Progress, 1
Bodine, E. W., Culturing Tilletia levis, 341
Bosma, N. J., A Trematode Requiring Four Hosts, 521
Bowman, P. W., and M. N. Linch, Preparation of Animal Tissues for Staining, 440
Bradbury, O. C., Histological Technique, 225
Branson, C. C., Age of the Metamorphic Series of Northeastern Washington, 70
Brasch, F. E., History and Work of Harvard Observatory, S. I. Bailey, 598
Breasted, J. H., The Rise of Man, 639
Breedis, C., Device for Holding Ultrafiltration Membranes, 635
Bressman, E. N., Developing New Varieties of Hops, 202
Brinley, F. J., and C. W. Creaser, Eggs of Fresh-water Fishes for Physiological Research, 295
British, National, Physical Laboratory, 30, Collection of Type Cultures, 126; Soc. of Chem. Industry, Jubilee Meeting, 144; Medical Research Council, Therapeutic Trials Committee of, 239; Industrial Health Research Board, 307; British Association for the Advancement of Science, 236; Address of President, 297
Brittingham, W. H., Variations in Evening Primrose, 463
Britton, S. W., and H. Silvette, Cortico-adrenal Extract, by Mouth, 440
Britton, W. E., Edward Hopkins Jenkins, 537
Brown, F. C., Samuel Wesley Stratton, 428
Brown, J. H., Crown Sealed Milk Bottles, 391
Burk, D., H. Lineweaver, C. K. Horner and F. E. Allison, Nutrition and Stimulation of Plant Growth, 522
Burkenroad, M. D., Sex in the Louisiana Oyster, 71
Burt, F. A., Glauconite and Foraminiferal Shells, 457
Butler, E. G., X-Radiation and Regeneration in Amblystoma, 100
Byerly, T. C., Embryo Size in the Fowl and the Rabbit, 546

CABLE, R. M., and H. W. STUNKARD, A Trematode from the Cloaca of the Gull, 438
CALDWELL, M. L., L. E. BOOHER and H. C. SHERMAN, Crystalline Amylase, 37
Calendar and Meteorology, Conferences on, 405
California, Univ. of, Museum of Anthropology, 283
CAMP, W. H., Haematoxylin and Its Uses, 661
CAMPBELL, L., Edward Skinner King, 380
Canal Zone Experiment Gardens, 362
CANAVAN, W. P. N., Reaction of the Contents of Trichinella spiralis Cysts, 71
Cancer, Hormones in, F. BISCHOFF, L. C. MAXWELL and H. J. ULLMANN, 16; Research, E. MCDONALD, 55
Caries, Dental, Production of, in Rats, C. A. HOPPERT, P. A. WEBBER and T. L. CANNIFF, 77; -Immunity and Susceptibility in the Rat, H. KLEIN and E. V. MCCOLLUM, 662
CARMICHAEL, E. B., The South's Contribution to Science, 421
Carnegie Institution of Washington, Appointments, 408
CARPENTER, D. C., and B. R. NEBEL, Ruthenium Tetroxide as a Fixative in Cytology, 154
CARPENTER, K. E., Variations in Holopedium Species, 550
CARREL, A., Physiological Time, 618
Cat, Midbrain of the, Action Currents in the Auditory Tract of the, H. DAVIS and L. J. SAUL, 205
CAULLERY, M., Genetics and Evolution, 254
CAYLOR, H. D., and T. E. CAYLOR, Light Source for Portable Microscope, 73
Cellophane, Reconstruction Work by the Use of, E. R. VAN DER JAGT, 601
Chamberlin, Thomas Chrowder Science Library, 562
Chemical Soc., Amer., Buffalo Meeting, 64; Symposium, 215
Chemistry, Body, G. J. RICH, 21; Paper, Inst. of, 382; Pure and Applied, Ninth International Congress, 432
Chicago Centennial Exposition, 1933, Basic Sciences at, J. S. SEWALL, 94
Chick, Blastodiscs and Embryos, M. M. KEITH, 268; Embryos, E. W. GOODPASTURE, A. M. WOODRUFF and G. J. BUDDINGH, 371
Chicken Tumor, Causative Agent of a, J. B. MURPHY and E. STURM, 160
China, Flora of, E. D. MERRILL, 95
CHITTENDEN, R. H., Plant Sciences in the Sheffield Scientific School, 273
Chromosomes, of Petunia, A. M. OTTLEY, 175; In Entire Insect Eggs, M. L. SCHMUCK and C. W. METZ, 600
CHURCH, M. B., The Sugar Tolerance of Yeasts, 492
Citrus Fruit Laboratory in Texas, 431
CLARK, R. W., Protective Coatings for Mineral and Rock Specimens, 439
Clarke, Frank Wigglesworth, L. M. DENNIS, 212
Clay, Varved, in Holmes County, Ohio, G. W. WHITE, 441
Clinical, Investigation, F. G. BLAKE, 27; Congress of the Conn. State Med. Soc., 306
Coal, Bituminous, International Conference on, 260
COBB, N. A., Live Nemas in Zoological Courses, 489
COE, W. R., Sexual Rhythm in Oyster, 247
COLE, W R., A Singing Tube, 461
Color, W. A. NOYES, 96
Columbia Univ., Post-Graduate Medical School, 31
COLWELL, R. C., and L. FULLMER, Microphone Amplifier, 204
COMPTON, A. H., Uncertainty Principle, 172
Connecticut Valley, Terraces in, R. F. FLINT, 368
Coral Reefs, Gardiner on, R. A. DALY, 566
COREY, E. L., and S. W. BRITTON, Effects on the Gonads of Cortico-adrenal Extract, 101
Corpora Lutea, R. G. HARRIS and D. M. NEWMAN, 182
Cortico-adrenal Extract, E. L. COREY and S. W. BRITTON, 101; S. W. BRITTON and H. SILVETTE, 440
CREASER, E. P., North American Phyllopods, 267
Creatine "Taste Deficiency," R. J. WILLIAMS, 597
Crystalline Amylase, M. L. CALDWELL, L. E. BOOHER and H. C. SHERMAN, 37
Cyclone and Anticyclone, A. MCADIE, 595
Cysteine, Autoxidation of, C. A. ELVEHJEM, 508

DADOURIAN, H. M., Science in Soviet Russia, 15
DALY, R. A., Gardiner on Coral Reefs, 566
DAVIS, H., and L. J. SAUL, Action Currents in the Auditory Tracts of the Midbrain of the Cat, 205
DENNIS, L. M., Frank Wigglesworth Clarke, 212
DESCH, C. H., Pure and Applied Science, 495
Dictionary, Improvement of, N. W. TAYLOR, 367
Discharge Tube, Triple-Spectrum, R. W. SHAW and G. B. SABINE, 179
"Discovery," Return of the, 197
Disease, Elm, New, C. MAY, 437; Transmissions by Arthropods, C. G. HUFF, 456
Distilled Water, Testing Reaction of, E. TRUOG, 633
Divining Rod and Fakers, W. K. MOOREHEAD, 42
Doctorates Conferred in the Sciences by American Universities, 1930–31, C. J. WEST and C. HULL, 659
DORCHESTER, C. S., and L. W. BUTLER, Atmospheric Electricity, 155
Double-slit, Adjustable, P. KIRKPATRICK, 179
DRESDEN, A., The School Days of Lorentz, 657
Drop Recorder, Improved, O. S. GIBBS, 549
DRYDEN, A. L., JR., Fossil Foraminiferal Shells, 17
Drying Solutions, Apparatus for, W. W. EWING, 74

Earthworm as an Economic Problem, C. T. HURST, 656
Edison, Thomas Alva, 404; Medal, Award to Dr. Edwin W. Rice, Jr., 624
Eggs of Fresh-water Fishes for Physiological Research, F. J. BRINLEY and C. W. CREASER, 295
Einstein, What Does He Mean?, J. FRENKEL, 609
Electrical, Engineers, Amer. Inst. of, Officers, 9; Appointments, 331; Drop Counter, S. E. OWEN, 19
Electricity, Atmospheric, C. S. DORCHESTER and L. W. BUTLER, 155
Electrochemical Soc., International Convention, 237
Electrochemistry, The Metals in, L. KAHLENBERG, 79
Electromagnetic and Gravitational Fields, 438
Element 87, C. F. GRAHAM, 665
ELVEHJEM, C. A., Autoxidation of Cysteine, 568
Embryo, Sac, Is It a Megaspore?, R. B. THOMSON, 544; Size in the Fowl and the Rabbit, T. C. BYERLY, 546
EMERSON, P., Purity of Limestone in the Field, 418
EMIG, W. H., Megametophyte of Pinus, 337
Enamel, Mottled, Cause of, M. C. SMITH, E. M. LANTZ and H. V. SMITH, 244
Encephalomyelitis of Horses, Epizootic, Etiology of, K. F. MEYER, C. M. HARING and B. HOWITT, 227
Endamoeba Histolytica, J. H. ST. JOHN, 519
Engineering, Foundation, Dr. Swesey's Gift to, 32; Chemical, Teachers of, 126; Education, D. C. JACKSON, 183; Graduates, Employment for, 214
EVERMANN, B. W., David Starr Jordan, 327
Evolution, E. B. POULTON, 345; H. F. OSBORN, 557
EWING, W. W., Apparatus for Drying Solutions, 74
Exponents and Footnotes, F. B. SUMNER, 95
Eye-Movement Camera, Iowa, H. H. JASPER and R. Y. WALKER, 291

Fahrenheit, Daniel Gabriel, 588
Faraday, Celebration, 167; Michael and Joseph Henry, 282
Fertilizer Requirements of Plants and Leaf Diagnosis, A. E. MURNEEK and E. J. GILDEHAUS, 39
Field Museum of Natural History, Paintings, 260
Film Lantern Slides, O. GLASSER, 549
Fine, Henry Burchard, Hall of Mathematics, 432, 213
"Fire-stopper, The," F. W. HAASIS, 222
Fisheries Commission, 166
FITZPATRICK, H. M., Visit of Dr. Jakob E. Lange, 43

FLEXNER, S., Poliomyelitis, 251; Accelerated Infection in, 520; Simultaneity in the Onset of, 601
FLINT, R. F., Terraces in the Connecticut Valley, 368
Foodstuffs, Dynamic Action of, A. E. KOEHLER, 78
FORBES, W. T. M., The Great Glacial Cycle, 294
Fossils, Vertebrate, Lithographic Plates, H. F. OSBORN, 43; from the Sierra Nevada, E. B. MAYO, 514
FRANK, G., Stephen Moulton Babcock, Address, 87
FRAPS, G. S., Hybrid Words, 438
Freeman, John R., In Honor of, 65
FRENKEL, J., What Does Einstein Mean?, 609

GAGER, C. S., "At the Top is Magic," 569
Galactic Explorations, H. SHAPLEY, 207
Gambusia in Foreign Lands, S. T. HILDEBRAND, 655
Gas, Pressure, Positive, in Poplar, F. C. GATES, 153; Effect of the Application of a Field of Attraction to a, R. D. KLEEMAN, 291
Gasterostomes, The Redia of, A. E. WOODHEAD, 463
GATES, F. C., Positive Gas Pressure in Poplar, 153
Genetics, International Congress of, 145, 590; and Evolution, M. CAULLERY, 254
Geologic, Archeologic and Paleontologic Work in Central Asia, Arrest of, H. F. OSBORN, 139
Geological, Assoc., N. Y. State, 215; Soc. of Amer., Tulsa Meeting, 507; Survey Work, Virginia, A. BEVAN, 630; Excursion, Intercollegiate, M. BILLINGS, 658
Geomorphological Evidence of a Climatic Boundary, R. J. RUSSELL, 484
GIBBS, O. S., An Improved Drop Recorder, 549
GILL, A. H., and G. T. VAALA, Do Peanut Fed Hogs Yield Lards Containing Arachidic Acid?, 548
Glacial Cycle, Great, W. T. M. FORBES, 294
GLASER, R. W., The "Rickettsiae" and the Intracellular "Symbionts," 243
GLASSER, O., Film Lantern Slides, 549
GOETZ, A., and A. B. FOCKE, Diamagnetism in Metal Crystals, 603
GOMBERG, M., Valence Variation and Atomic Structure, 553
GOODPASTURE, E. W., A. M. WOODRUFF and G. J. BUDDINGH, Cultivation of Vaccine in Chick Embryos, 371
GRAHAM, C. F., Element 87, 665
GREULICH, W. W., Sex Ratio of Human Stillbirths, 53
Grinder for Soft Tissues, C. TENBROECK, 98
Growth, Rates, E. M. HARVEY, 46; Curves, W. A. HENDRICKS, 290; of Lemna minor and Manganese, E. F. HOPKINS, 551
GUYER, M. F., Internal Secretions and Human Well-being, 159

HAASIS, F. W., The "Fire-stopper," 222; Expulsion of Gas and Liquids from Tree Trunks, 311
HACKH, I. W. D., A Chart of Radioactive Elements, 490
Haematoxylin, Solutions, Ripening, E. J. KOHL and C. M. JAMES, 247; and its Uses, W. H. CAMP, 661
Hailstones, Conical, A. T. JONES, 656
HALLIDAY, N., Anemia and the Pellagra-like Symptoms in Rats, 312
HARGITT, G. T., Section F (Zoology) Amer. Assoc. at New Orleans Meeting, 416
HARRIS, R. G., and D. M. NEWMAN, Test for Potency of Extract of Corpora Lutea, 182
Hart, Edward, 1854–1931, E. C. BINGHAM, 123
HARTMAN, C. G., Relative Sterility of the Adolescent Organism, 226
Harvard, Univ., Dept. of Physics, 10; Summer Work of Botanists, 90; New Observatory, 480
Harveian Society of London, Centenary, 32
HARVEY, E. M., Growth Rates, 46
HARVEY, E. N., and G. I. LAVIN, Reduction of Oxyluciferin by Atomic Hydrogen, 150
HASTINGS, E. G., Glassware in the Laboratory, 662
HAWK, P. B., and B. L. OSER, Modification of the Osborne-Mendel Salt Mixture, 369
Health, Service, U. S. Public, Expenditures, 89; and U. S. Army Medical Department, E. E. HUME, 465; Departments, County, 261
Hemophilia, C. L. F. BIRCH, 16
HENDRICKS, W. A., Growth Curves, 290
Herbicides, Chlorates as, W. E. LOOMIS, R. BESSEY and E. V. SMITH, 485
Herpetological Fauna of Kansas, J. E. HILL, 547
HERRMAN, C., Newton's Saying, 175
Heterothallism in Puccinia triticina, R. F. ALLEN, 462
HILDEBRAND, S. T., Gambusia in Foreign Lands, 655
HILL, J. E., Herpetological Fauna of Kansas, 547
Hillebrand, Dr., as I Knew him, E. T. ALLEN, 60
HILTON, W. A., Pauropoda in Alaska, 338
Himalayan Flora at the Roerich Museum, 649
Histological Technique, O. C. BRADBURY, 225
HOLLAND, M., Industrial Science, 279
Holopedium Species, Variations, K. E. CARPENTER, 550
Honorary Degrees for Scientific Men, 11
HOPKINS, E. F., Growth of Lemna minor, 551
HOPPERT, C. A., P. A. WEBBER and T. L. CANNIFF, Production of Dental Caries in Rats, 77
Hops, Developing New Varieties of, E. N. BRESSMAN, 202
HOWELL, A. B., Poisoning Rodents, 632
HUDDLESON, I. F., and H. W. JOHNSON, Phagocytosis of Brucella, an Undulant Fever, 315
HUFF, C. G., Disease Transmissions by Arthropods, 456
HUME, E. E., U. S. Army Medical Department, 465
HUNTINGTON, E., Conference of Biological Cycles, 229
HURST, C. T., A Curious Fish Story, 515; Common Earthworm as an Economic Problem, 656
Hydrogen, Atomic, Reduction of Oxyluciferin by, E. N. HARVEY and G. I. LAVIN, 150
Hygienic Exposition in Dresden, 63

Illinois State Geological Survey, Research, 63
Illumination Congress, International, 330
Immunology, Post-Ehrlich, W. H. MANWARING, 324
Incubators, Heating, Humidifying Device for, G. WISHART and A. B. BAIRD, 269
Industrial Science, M. HOLLAND, 279
INMAN, O. L., and P. ROTHEMUND, Phylloerythrin in the Digestive System of Herbivorous Animals, 221
Internal Secretions and Well-being, M. F. GUYER, 159
Isle Royale National Park, 9

JACKSON, D. C., Engineering Education, 183
JACKSON, R. W., and R. J. BLOCK, Metabolism of Cystine and Methionine, 414
JACOT, A. P., Tree Twist, 567
JASPER, H. H., and R. Y. WALKER, Eye-Movement Camera, 291
Jenkins, Edward Hopkins, W. E. BRITTON, 537
Johns Hopkins University, Dohme Foundation, 451
JOHNSON, E. H., History of Physics, 433
JOHNSON, T. B., Biochemical Research, 276
JONES, A. T., Conical Hailstones, 656
Jordan, David Starr, B. W. EVERMANN, 327
JOSEPHSON, E. M., Vision and the Vascularity of the Eye, 339

KAHLENBERG, L., The Metals in Electrochemistry, 79
KAHN, A. L., and G. H. HANLEY, Photographing Animals, 520
Kauffman, Calvin Henry, E. B. MAINS, 235
KEITH, M. M., Chick Blastodiscs and Embryos, 268
KELLOGG, V., Grants of the National Research Council, 96
Kelvin's, Lord, "Mortal Spring," E. THOMAS, 173
KENDALL, A. I., Filterability of Bacteria, 129
Kentucky, Geological Survey, 382; Univ. of, Observatory, 126, Agricultural Engineering Building, 332
KILLE, F. R., Induced Autotomy in Thyone, 396
King, Edward Skinner, L. CAMPBELL, 380
KIRKPATRICK, P., Adjustable Double-slit, 179
Kitasato, Shibasaburo, M. MITAJIMA, 124

KLEEMAN, R. D., Application of a Field of Attraction to a Gas, 291
KLEIN, H., and E. V. MCCOLLUM, Caries-Immunity and Susceptibility in the Rat, 662
KOEHLER, A. E., Dynamic Action of Foodstuffs, 78
KOHL, E. J., and C. M. JAMES, Ripening Haematoxylin Solutions, 247
KOSKOFF, Y. D., and J. G. DUSSER DE BARENNE, Reflex-Hyperlipaemia, 550
Kymographic Records Copying, W. C. ALVAREZ, 634

Lamme Medal, 90
Lamson, P. D., Biological Abstracts, 486
LANE, B. H., More about Citations, 338
Lange, Dr. Jakob E., Visit of, H. M. FITZPATRICK, 43
Lantern Slides, Preparing, P. E. REID, 418
LEARY, T., Decline in Length of Life, 69
Leeds School of Medicine, 284
LEVENE, P. A., Revolt of the Biochemists, 23; The Term Protein, 658; and R. S. TIPSON, The Ring Structure of Adenosine, 521
LEWIS, H. B., International Physiological Congress Fund Fellowships, 223
Life, Length of, Decline in, T. LEARY, 69
Light Source for Portable Microscope, H. D. and T. E. CAYLOR, 73
Lignin as in Nutrient for the Mushroom, S. A. WAKSMAN and W. NISSEN, 271
LILLIE, F. R., Bilateral Gynandromorphism and Lateral Hemihypertrophy in Birds, 387
Limestone, the Purity of, P. EMERSON, 418
LIPMAN, C. B., Rôle of Micro-organisms in the Precipitation of Calcium Carbonate, 150
London School of Hygiene and Tropical Medicine, 197
LOOMIS, W. E., R. BISSEY and E. V. SMITH, Chlorates as Herbicides, 485
Lorentz, The School Days of, A. DRESDEN, 657
Lowell Lectures, 452

MCADIE, A., Cyclone and Anticyclone, 595
MCCLELLAND, E. H., Abbreviations for Scientific Terms, 203
MCCLENDON, J. F., The use of Micromanipulators, 661
MCCULLOCH, E. C., Observation of a Small Object, 634
MCDONALD, E., Cancer Research, 55
MACKELL, J. F., Sound Absorption Coefficients, 224
MACNAMARA, C., Position of Wood in Beaver Dams, 630
MCNEEL, T. E., Larvae of the Mosquito Mansonia, 155
MCNEIL, E., and J. E. GULLBERG, Micromanipulator, 460
Magendie, Contribution to Nutrition by, F. C. BING, 456
"Magic, At the Top is," C. S. GAGER, 569
MAGIE, W. F., Opticks, I. Newton, 18
MAINS, E. B., Calvin Henry Kauffman, 235
Mammals, Predatory, Control of, H. E. ANTHONY, 288
Man, The Rise of, J. H. BREASTED, 639
Manuscripts, Old, J. P. SANDERS and F. K. CAMERON, 488
MANWARING, W. H., Post-Ehrlich Immunology, 324
Maps, Topographical, 478
MARGENAU, H., Uncertainty Principle, 596
Marine Tertiary in Arizona, E. D. WILSON, 567
MARRIAN, G. F., and A. BUTENANDT, Oestrus-Producing Hormones, 547
Mathematical, Statistics, H. L. RIETZ, 82; Review, G. A. MILLER, 366
MATHER, K. F., Section E (Geology and Geography) Amer. Assoc. at New Orleans Meeting, 417
MAY, C., A New Elm Disease, 437
MAYO, E. B., Fossils from the Sierra Nevada, 514
Measles Epidemic, Expected, 539
Medicine, The Art of, D. RIESMAN, 373
Medusae, Fresh-water, in Oklahoma, A. I. ORTENBURGER and G. R. PHILLIPS, 222
Mellon Institute, Techno-Chemical Lectures of, 406
MENDENHALL, W. L., The Abdominal Window, 245
MERRILL, E. D., Flora of China, 95
Metabolism, of Cystine and Methionine, R. W. JACKSON and R. J. BLOCK, 414; Sterol, R. SCHOENHEIMER, 579
Metal Congress, National, 305
Metallurgical Advisory Board, 381
Metamorphic Series of Northeastern Washington, Age of, C. C. BRANSON, 70
METCALF, M. M., Poisoning by Poison Ivy, 632
Meteorological Organization, International, 649
Mexico, A Flora of, S. F. BLAKE, 458
MEYER, K. F., C. M. HARING and B. HOWITT, Etiology of Epizootic Encephalomyelitis of Horses, 227
Micromanipulator, New, E. MCNEIL and J. E. GULLBERG, 460; Use of, J. F. MCCLENDON, 661
Micro-organisms, Rôle of, in Precipitation of Calcium Carbonate, C. B. LIPMAN, 150
Microphone Amplifier, R. C. COLWELL and L. FULLMER, 204
Microscopes, Light Filter for, C. E. THARALDSEN, 313
Microtome Sections, Curling of, F. A. VARRELMAN, 20
Milk Bottles, Laboratory Uses for, J. H. BROWN, 391
MILLER, E. C. L., Virginia Academy of Science, 154
MILLER, F. R., Non-Acid-Fast Tubercle Bacilli, 343
MILLER, G. A., A New Mathematical Review, 366
MIYAJIMA, M., Shibasaburo Kitasato, 124
Monochromatic Light for the Polariscope, A. ROTHEN, 204
MOOREHEAD, W. K., The Divining Rod and Fakers, 42
Mosaic Virus in Vitro, P. K. OLITSKY and F. C. FORSBECK, 483
Mosquito Mansonia, Larvae of, T. E. MCNEEL, 155
Motor Found in Nature, O. J. STEWART, 548
MOTTLEY, C. MCC., Effect of Temperature on the Number of Scales in Trout, 316
Munro, Professor Charles E., Portrait to, 651
MURNEEK, A. E., and E. J. GILDEHAUS, Leaf Diagnosis and Fertilizer Requirements of Plants, 39
MURPHY, J. B., and E. STURM, the Causative Agent of a Chicken Tumor, 180
Museum, U. S., National, Herbarium, 198
Mutation in the House Mouse, New, E. ROBERTS, 569

National, Research Council, Grants-in-Aid, 450
NEAL, W. M., R. B. BECKER and A. L. SHEALY, Natural Copper Deficiency in Cattle Rations, 418
Nema for Type Study, G. ZEBROWSKI, 390
New Hampshire Academy of Science, G. W. WHITE, 98
Newton, I., Opticks, W. F. MAGIE, 18; Newton's Saying, C. HERRMAN, 175; Correspondence, 332
NICHOLS, M. L., Getting the Student to Use His Own Intellect, 152
NICOLET, B. H., Glycine from Serine, 250
Nobel Award, A Junior, 480
Nomenclature, Geomorphic, F. BASCOM, 172; Ecological, 648
North Carolina Academy of Science, H. R. TOTTEN, 153
NOYES, W. A., Color, 96; Uncertainty Principle, 595

Oakley, Russell A., H. N. VINALL, 195
Observation of a Small Object, E. C. MCCULLOCH, 634
Oestrus, S. L. TYSON, 512; -Producing Hormones, G. F. MARRIAN and A. BUTENANDT, 547
OLCOTT, H. S., and D. C. MCCANN, Transformation of Carotene to Vitamin A in Vitro, 414
OLITSKY, D. K., and F. C. FORSBECK, Mosaic Virus in Vitro, 483
OLIVER, J., "The New Cytology," 174
Optical Soc. of Amer., Annual Meeting, 283
Oriental Inst. Chicago, Field Expeditions, 589
Ornithologists' Union, Amer., Annual Meeting, 561
ORTENBURGER, A. I., and G. R. PHILLIPS, Fresh Water Medusae in Oklahoma, 222
OSBORN, H. F., Lithographic Plates of Vertebrate Fossils, 43; Arrest of Work in Central Asia, 139; Evolution, 557
Osborne-Mendel Salt-Mixture, Modification of, P. B. HAWK and B. L. OSER, 369

OTTLEY, A. M., Chromosomes of Petunia, 175
Ovo-testis in the Yellow Perch, C. L. TURNER, 370
OWEN, S. E., An Electrical Drop Counter, 19
Oxygen Consumption in Sarcina lutea, B. B. RUBENSTEIN, 419
Oyster, Louisiana, Sex in, M. D. BURKENROAD, 71

Pan-American Scientific Congress, 507
Paramecium aurelia, Division Rate, A. PHELPS, 395
PARKER, R. C., Human Serum, Age and Multiplication of Homologous Fibro-blasts, 181
PARKS, H. B., Texas Academy of Science, 97
Parks, National, in Africa, M. L. J. AKELEY, 584
Parr, Samuel Wilson, R. ADAMS, 8
Pauropoda in Alaska, W. A. HILTON, 338
Peat, Beds, in the Apostle Islands, F. B. TAYLOR, 265; Under a Delaware Beach, L. M. SNOW, 458
Pellagra-like Symptoms in Rats and Anemia, N. HALLIDAY, 312
PENCHARZ, R. I., and J. A. LONG, Effect of Hypophysectomy on Gestation in the Rat, 206
Penrose, Richard Alexander Fullerton, Jr., J. STANLEY BROWN, 476
Perosis in Chickens, H. W. TITUS and W. M. GINN, 249
PERRY, L. M., Catfish Feeding on the Eggs of the Horseshoe Crab, 312
Phagocytosis of Brucella, Index of Immunity to Undulant Fever, I. F. HUDDLESON and H. W. JOHNSON, 315
Pharmacopoeia, The United States, 560
PHELPS, A., Division Rate of Paramecium aurelia, 395
Philosophical Soc. of Washington, Joseph Henry Lectureship, 168
PHILPOTT, C. H., Use of Protozoa in Measuring the Neutralizing Value of Cobra Anti-Serum, 157
Photomicrography, Box Camera in, C. S. APGAR, 487; Ultra-Violet, of Living Cells, W. G. WYCKOFF and A. L. TER LOUW, 664
Phylloerythrin in Digestive System of Herbivorous Animals, O. L. INMAN and P. ROTHEMUND, 221
Phyllopods, North American, E. P. CREASER, 267
Physical Soc. Amer., Schenectady Meeting, 127
Physics, Research in, J. J. THOMSON, 317; History of, Courses on, E. H. JOHNSON, 435; Amer. Inst. of, 508; Teachers, Amer. Assoc. of, 561
Physiological, Congress Fund Fellowships, International, H. B. LEWIS, 223; Time, A. CARREL, 618
Physiology, International Congress of, 650
Pinus, Megametophyte of, W. H. EMIG, 337
Plant, Growth, D. BURK, H. LINEWEAVER, C. K. HORNER and F. E. ALLISON, 522; Sciences in the Sheffield Scientific School, R. H. CHITTENDEN, 273
Poisoning, Rodents, A. B. HOWELL, 632; by Poison Ivy, M. M. METCALF, 632
Poliomyelitis, S. FLEXNER, 251, 520, 601
Polyembryony in Red Spruce, H. I. BALDWIN and W. E PERCIVAL, 203
Post, Aerial, Early, Relic of, S. R. WILLIAMS, 244
POULTON, E. B., A Hundred Years of Evolution, 345
Protein, The Term; A Correction, P. A. LEVENE, 658
Protoplasm, Ameban, A. A. SCHAEFFER, 47
Protozoa, Apparatus for Washing, J. P. TURNER, 99; Use of, in Measuring the Neutralizing Value of Cobra Anti-Serum, C. H. PHILPOTT, 157
Psychiatric Education, 431
Psyllic-Yellows, Correction on, A. M. BINKLEY, 72
Pythium, Classification of, C. P. SIDERIS, 596

QUIRK, A. J., Colony Types, 461

Race and Progress, F. BOAS, 1
Radioactive Elements, Chart of, I. W. D. HACKH, 490
RAINES, M. A., Dilatometer for Measuring the Swelling of Seeds, 392
Rat, Gestation in, Effect of Hypophysectomy on, R. I. PENCHARZ and J. A LONG, 206
Rations, Cattle, Natural Copper Deficiency in, W. M. NEAL, R. B. BECKER and A. L. SHEALY, 418
Reflex-Hyperlipaemia, Y. D. KOSKOFF and J. G. DUSSER DE BARENNE, 550
REID, P. E., Preparing Lantern Slides, 418
REIMANN, H. A., Decreased Suspension Stability of the Blood, 513
Research, Council, National, Grants-in-aid of, V. KELLOGG, 96; Farm, Surgical, Buckston Browne, 144; Industrial, 361; Patents, Univ. of Wisconsin, 506; Corporation, Award of Prizes, 10, 237
RICH, J. G., Intelligence and Body Chemistry, 21
"Rickettsiae" and the Intracellular "Symbionts," R. W. GLASER, 243
RIESMAN, D., The Art of Medicine, 373
RIETZ, H. L., Mathematical Statistics, 82
ROBBINS, S. D., Naming Disorders of Speech, 515
ROBERTS, E., New Mutation in the House Mouse, 569
ROOS, C. F., American Association, New Orleans Meeting, 415, 516, 525
ROTHEN, A., A Source of Monochromatic Light for the Polariscope, 204
ROUS, P., Alfred Scott Warthin, 142
Royal Botanic Society, 88, 213
RUBENSTEIN, B. B., Rate of Oxygen Consumption in Sarcina lutea, 419
RUSSELL, H. L., Dr. Stephen Moulton Babcock, 86
RUSSELL, R. J., Geomorphological Evidence of a Climatic Boundary, 484
RUSSELL, W. C., and D. F. CHICHESTER, The Gall Bladders of Chicks in a Vitamin D Deficient Condition, 437
Russia, Soviet, Science in, H. M. DADOURIAN, 15
Ruthenium Tetroxide as a Fixative in Cytology, D. C. CARPENTER and B. R. NEBEL, 154

Sachs, Julius, in Honor of, 562
ST. JOHN, J. H., Method of Supplying Students with Natural Endamoeba Histolytica from Cultures, 519
SANDERS, J. P., and F. K. CAMERON, Old Manuscripts, 488
SANFORD, F., Difference in Wave-lengths of the Spectral Line of a Given Element, 412
SAX, K., Mechanism of Crossing-over, 41
SCHAEFFER, A. A., Ameban Protoplasm, 47
Schaudinn, J. H. STOKES, 502
SCHMUCK, M. L., and C. W. METZ, Study of Chromosomes in Entire Insect Eggs, 600
SCHOENHEIMER, R., Sterol Metabolism, 579
Science, and Technology, Congress of the History of, D. E. SMITH, 175; South's Contribution to, E. B. CARMICHAEL, 421; Pure and Applied, C. H. DESCH, 495
Scientific, World-Picture of To-day, J. C. SMUTS, 297; Congress, American, 624
Seeds, Measuring Swelling of, M. A. RAINES, 392
SEWALL, H., Psychic Analogues of Allergy, 37
Seward, A. C., Plant Life, E. W. BERRY, 72
SEWELL, J. S., Summer Meeting of the Amer. Assoc. at the Chicago Centennial Exposition, 941
Sexual Rhythm in the Oyster, W. R. COE, 247
SHAPLEY, H., Professor Solon I. Bailey, 29; Galactic Explorations, 207
SHAW, R. W., and G. B. SABINE, Triple-Spectrum Discharge Tube, 179
Shells, Fossil Foraminiferal, A. L. DRYDEN, JR., 17
SHERMAN, J. M., and C. E. SAFFORD, Primitive or Filterable Forms of Bacteria, 602
SIDERIS, C. P., Classification of Pythium, 596
Sigma Pi Sigma Convention, 560
Singing Tube, W. R. COLE, 461
SMITH, D. E., International Congress of the History of Science and Technology, 175
SMITH, M. C., E. M. LANTZ and H. V. SMITH, The Cause of Mottled Enamel, 244
SMITH, T., Action of Agar on Bacteria, 21
SMUTS, J. C., The Scientific World-Picture, 297
SNOW, L. M., Peat Under a Delaware Beach, 458
Snowflakes, Conical, W. W. WAGENER, 414

SNYDER, C. D., A Study in Biokinetics, 443
SNYDER, L. H., Inherited Taste Deficiency, 151
Solar System, Riddle of, C. V. VAN ANDA, 187
Sound Absorption Coefficients, J. F. MACKELL, 224
Speech, Naming Disorders of, S. D. ROBBINS, 515
SPRAGUE, R., Columbia Basin Footrot of Wheat, 51
Stain for Fibrin, in Tissues, H. M. WALLACE, 369
STANLEY-BROWN, J., Richard Alexander Fullerton Penrose, Jr., 476
Sterility of Adolescent Organism, C. G. HARTMAN, 226
STEWART, G., Inbreeding in Alfalfa, 341
STEWART, O. J., A Motor Found in Nature, 548
Stiles, Dr. Charles Wardell, Retirement of, 540
Stillbirths, Sex Ratio among, W. W. GREULICH, 53
STOKES, J. H., Schaudinn, 502
Stratton, Samuel Wesley, F. C. BROWN, 428
SUMNER, F. B., Exponents and Footnotes, 95
SUMNER, J. B., and J. S. KIRK, Antiurease, 102
Surgeons, American College of, 406
Sydney, Univ. of, Marine Lab. of, T. W. VAUGHAN, 202

Taste Deficiency, Inherited, L. H. SNYDER, 151
TAYLOR, F. B., Submerged Peat Beds, 265
TAYLOR, N. W., Improvement of the Dictionary, 367
Temperature, Effect of, on the Number of Scales in Trout, C. McC. MOTTLEY, 316
Temperatures, Bottom, in Deep Lakes, S. WRIGHT, 413
TENBROECK, C., Grinder for Soft Tissues, 98
Texas, Academy of Science, H. B. PARKS, 97
THARALDSEN, C. E., Light Filter for Microscopes, 313
Thermoelectromotive Forces, S. R. WILLIAMS, 75
THOMAS, E., Lord Kelvin's "Mortal Spring," 173
Thompson, Elizabeth, Science Fund, Grants from, 560
THOMSON, J. J., Research in Physics, 317
THOMSON, R. B., Is the Embryo Sac a Megaspore?, 544
Thyone, Induced Autotomy in, F. R. KILLE, 396
Tilletia levis, Culturing, E. W. BODINE, 341
Tissues, Animal, for Staining, P. W. BOWMAN and M. N. LINCH, 440
TITUS, H. W., and W. M. GINN, Rice Bran, a Preventive of Perosis in Chickens, 249
TOTTEN, H. R., N. C. Academy of Science, 153
Tree, Trunks, Expulsion of Gas and Liquids from, F. W. HAASIS, 311; Twist, A. P. JACOT, 567
Trematode, from the Cloaca of the Gull, R. M. CABLE and H. W. STUNKARD, 438; Requiring Four Hosts, N. J. BOSMA, 521
Trichinella spiralis Cysts, W. P. N. CANAVAN, 71
Trinity Beds, Land Types of, G. R. WIELAND, 393
TRUOG, E., Reaction of Distilled Water, 633
Tubercle Bacilli, Non-Acid, Fast, F. R. MILLER, 343
TURNER, C. L., Ovo-testis in the Yellow Perch, 370
TURNER, J. P., Apparatus for Washing Protozoa, 99
TYSON, S. L., Oestrus, 512

Ultra-Centrifuge, J. W. BEAMS and A. J. WEED, 44
Ultrafiltration Membranes, Holding, C. BREEDIS, 635
Uncertainty Principle, and Free Will, A. H. COMPTON, 172; W. A. NOYES, 595; H. MARGENAU, 596

VAN ANDA, C. V., Riddle of the Solar System, 187
VAN DER JAGT, E. R., Reconstruction Work by the Use of Cellophane, 601
VAN PATTEN, N., The Work of Dr. Baskerville, 657
Variations in Evening Primrose, W. H. BRITTINGHAM, 463
VARRELMAN, F. A., Curling of Microtome Sections, 20
VAUGHAN, T. W., Marine Lab., Univ. of Sydney, 202
VINALL, H. N., Russell A. Oakley, 195
Virginia Academy of Science, E. C. L. MILLER, 154
Vision and the Vascularity of the Eye, E. M. JOSEPHSON, 339
Vitamin, A in Vitro, Transformation of Carotene to, H. S. OLCOTT and D. C. MCCANN, 414; D, Deficient Condition, Gall Bladders of Chicks in a, W. C. RUSSELL and D. F. CHICHESTER, 437

WAGENER, W. W., Conical Snowflakes, 414
WAKEHAM, G., and L. A. HANSEN, Basal-Metabolic Rates of Vegetarians, 70
WAKSMAN, S. A., and W. NISSEN, Lignin as a Nutrient for the Mushroom, (Agaricus Campestris), 271
WALLACE, H. M., Stain for Fibrin, in Tissues, 369
Warthin, Aldred Scott, P. ROUS, 142
Waterfowl of the U. S. and Canada, 166
Wave-lengths of the Spectral Lines of a Given Element, F. SANFORD, 412
Weather Conditions in North Polar Regions, 540
Wellcome Research Institution, 622
WEST, C. J., and C. HULL, Doctorates Conferred in the Sciences, 659
Wheat, of the Columbia Basin, R. SPRAGUE, 51
WHITE, G. W., N. H. Academy of Science, 98; Varved Clay in Holmes County, Ohio, 441
WIELAND, G. R., Why the Angiosperms are Old, 219; Land Types of the Trinity Beds, 393
Wild Life, in National Forests, 331; Problem of National Park System, 540
WILLIAMS, J. W., Absorption Devices and Methods, 340
WILLIAMS, R. J., "Taste Deficiency" for Creatine, 597
WILLIAMS, S. R., Thermoelectromotive Forces, 75; Early Aerial Post, 244; Work and Fatigue, 545
WILSON, E. D., Marine Tertiary in Arizona, 567
Wisconsin, Univ. of, Research Foundation, 89; New Engineering Building, 361
WISHART, G., and A. B. BAIRD, Heating-Humidifying Device for Incubators, 269
WOODHEAD, A. E., Redia of Gasterostomes, 463
Words, Hybrid, G. S. FRAPS, 438
Work and Bodily Fatigue, S. R. WILLIAMS, 545
WRIGHT, S., Bottom Temperatures in Deep Lakes, 413
WYCKOFF, R. W. G., and A. L. TER LOUW, Ultra-Violet Photomicrography of Living Cells, 664

Yale Univ., Surgical Building for, 238
Years, The Next Twenty, H. ZINSSER, 397
Yeasts, Sugar Tolerance of, M. B. CHURCH, 492
Yellow Fever, Gold Medals for Work in, 407

ZEBROWSKI, G., Nema for Type Study, 390
ZINSSER, H., The Next Twenty Years, 397
Zoological Courses, Live Nemas in, N. A. COBB, 489
ZOZAYA, J., Combination of Bacterial Polysaccharides and Collodion Particles as Antigens, 270

ND

M,

N,

o,
nt
LL

es

nt

t,

e

d

;

l

0
7
Y

-

g

;